

Notice of Allowability

Application No.

09/998,182

Examiner

Alicia Chevalier

Applicant(s)

LINDSTROM ET AL.

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 12/23/2003.
2. ☒ The allowed claim(s) is/are 1,3-6 and 8-11.
3. ☒ The drawings filed on 03 December 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Richard Gallagher on March 16, 2003.

Claim 1, line 4, "1," was deleted and replaced with -- 1g/10 min. --.

Claim 11, line 4, "1," was deleted and replaced with -- 1g/10 min. --.

REASONS FOR ALLOWANCE

3. The following is an examiner's statement of reasons for allowance:

The base claims are: claims 1 and 11.

They can be summarized as follows:

1. A multi-layer pressure pipe having a pressure category of PN 16 or greater according to ISO Standard 4065, said pipe comprising seamlessly attached successive layers of an extruded polyolefin matrix having a melt flow rate (MFR₂) (230°C, 2.16 kg) of greater than 1g/10 min. containing about 25 to 75% by weight long fiber reinforced layers, wherein the multi-layer pressure pipe is formed by cone extrusion through a cone extruder which cross-orientates the reinforcement fibers in the extruded material in the seamlessly attached successive layers.

11. A multi-layer pressure pipe having a pressure category of PN 16 or greater according to ISO Standard 4065, said pipe comprising seamlessly attached successive layers of an extruded polyolefin matrix having a melt flow rate (MFR₂) (230°C, 2.16 kg) of greater than 1g/10 min. containing about 25 to 75% by weight long fiber reinforced layers, wherein the multi-layer pressure pipe is formed by cone extrusion through a cone extruder which cross-orientes the reinforcement fibers in the extruded material in the seamlessly attached successive layers, said pipe comprising at least two successive layers of extruded plastic material seamlessly attached to each other, wherein the plastic material is a polyolefin containing long-fiber reinforcement and wherein the reinforcement fibers in each successive layer are oriented in the same direction throughout the layer and are cross-oriented with respect to the adjacent successive layer.

4. The closest prior art found can be summarized as follows:

Kobayashi (US Patent No. 5,236,018) discloses a fiber-reinforced plastic pipe comprising a multiple layers of fiber-reinforced plastic covering layers (*col. 4, lines 18-31*). Each layer comprises a matrix material such as polypropylene with reinforcing fibers such as carbon, glass, or aramid fibers (*col. 5, line 48 to col. 6, line 14*).

Kobayashi fails to teach or suggest the recited a pressure category of PN 16 or greater, a melt flow rate (MFR₂) (230°C, 2.16 kg) of greater than 1g/10 min. or 25 to 75% by weight long fiber reinforced layers.

Tokui et al. (US Patent No. 5,842,505) discloses a multi-layer pipe comprising fiber reinforced polyolefin. The polyolefin resin should preferably have a melt flow rate (MFR) of about 0.01 to 50 g/10 min. A melt flow rate of about 0.05 to 20 g/10 min. is more preferred

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when ease of injection or extrusion molding and mechanical properties are considered (*col. 2, lines 56-60*).

Tokui Kobayashi fails to teach or suggest the recited pressure category of PN 16 or greater, 25 to 75% by weight long fiber reinforced layers, or melt flow rate (MFR₂) (230°C, 2.16 kg) of greater than 1g/10 min. as pointed out in Applicant's arguments in response filed December 23, 2003.

Vegt (German Patent No. DE 25 51 525) discloses a fiber reinforced pipe comprising a matrix material such as polypropylene with glass reinforcing fibers (*page 4, paragraph 4 to page 5, paragraph 1*). The reinforced fibers ranging in the length of 0.2-5 mm and comprising 5-45% volume of the wall.

Vegt fails to teach or suggest the recited a pressure category of PN 16 or greater or a melt flow rate (MFR₂) (230°C, 2.16 kg) of greater than 1g/10 min.

In sum, the prior art of record fails to teach or suggest multi-layer pressure pipe having all the features of the base claim(s).

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Chevalier whose telephone number is (571) 272-1490. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:00 pm.

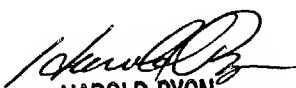
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ac

3/16/04




HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

3/17/04